DOCUMENT RESUME

ED 239 492 FL 014 173

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TITLE "Learning" and "Acquisition" -- How Real Is the Dichotomy: Some Neurophysical Evidence.
PUB DATE May 82
NOTE 22p.; Paper presented at the Annual Conference of Teachers of English to Speakers of Other Languages (16th, Honolulu, HI, May 1-6, 1982).
PUB TYPE Reports - Evaluative/Feasibility (142) -- Information Analyses (070) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Adult Students; *Cognitive Processes; Comparative Analysis; *Language Acquisition; *Learning Theories; Linguistic Theory; Models; Neurolinguistics; *Neurological Organization; *Second Language Learning
IDENTIFIERS *Levertov Machine; *Monitor Model

ABSTRACT

The dichotomy of language acquisition versus language learning is critically examined by comparing the concepts presented in Krashen's Monitor Model and Stevick's Levertov Machine to information from the field of neurophysiology regarding the brain's processes. It is proposed that support exists for the theory that two very different processes (conscious versus unconscious learning) are used by the brain to acquire information. There is also support for the idea that the learning-acquisition dichotomy, by its nature as a dichotomy, inadequately explains the interrelationship occurring between the two processes within the brain. Some homeostatic balance between language learning and acquisition in each learner is suggested, with some learners (very young children) benefiting more from an acquisition environment; some learners (adults with more analytical learning styles) benefiting more from a learning environment; and still others needing a combination of the two. The heuristic value of the dichotomy is supported, but the explanatory value is found to be insufficient. (MSE)

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"LEARNING" AND "ACQUISITION" -- HOW REAL IS THE DICHOTOMY:

SOME NEUROPHYSIOLOGICAL EVIDENCE

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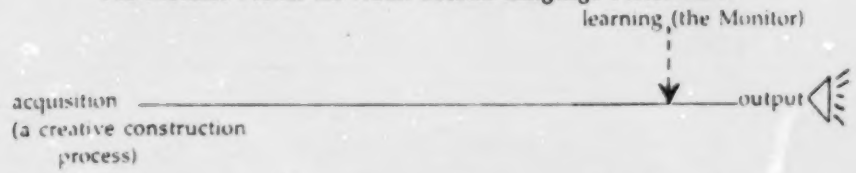
Much attention has been given to the dichotomy of language "acquisition" versus language "learning" prompted primarily by Krashen's Monitor Model and secondarily by Stevick's Levertov Machine, an elaboration of the Monitor Model. Although many empirical studies have been used by Krashen and others to support such a dichotomy, there are others who believe that such a dichotomy inadequately describes what occurs as individuals make attempts to learn a second language. After examining the information available from the field of neurophysiology regarding the brain's processing, I believe that support can be found for stating that two very different processes appear to be used by the brain to acquire information; however, I also believe that the information from the field of neurophysiology lends support to the ideas of those individuals who believe that the "learning" - "acquisition" dichotomy, because of its nature as a dichotomy, inadequately explains the interrelationship which occurs between these two different language acquisition processes within the brain. Therefore, in this paper, I would like to critically examine the "language"-"acquisition" dichotomy by comparing the concepts presented in Krashen's Monitor Model and Stevick's Levertov Machine to the information available from the field of neurophysiology about the brain's processes. When examined using neurophysiological evidence,

the "language"-"acquisition" dichotomy can be understood to have both strengths and weaknesses.

Assumptions of the Monitor Model and the Levertov Machine

So that the assumptions I hold regarding Krashen's Monitor Model and Stevick's Levertov Machine are made explicit and also to clarify the definitions of terms, I would like to begin by presenting the theoretical models of these two theorists and reviewing the major assumptions held by them.

The Monitor Model for Adult Second Language Performance

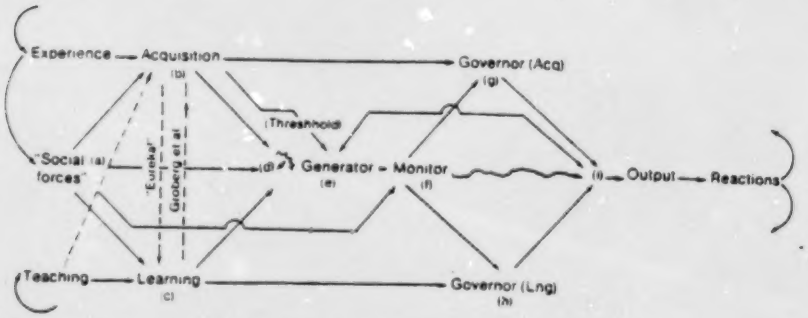


Krashen's Monitor Model

1. Acquisition - used to refer to the way linguistic abilities are internalized "naturally," that is, without conscious focusing on linguistic forms. It is a subconscious process.
2. Learning - is a conscious process which is the result of a formal learning situation or self-study program. It involves the presence of feedback or error correction and "rule isolation."
3. Monitor - the consciously learned information which can intrude and alter the phonological, lexical, and/or syntactic shape of the utterance before it is spoken. The Monitor involves only the "formal" knowledge of a second language.

4. Both acquisition and learning continue to a greater or lesser degree, side by side. However, the "creative construction process" can draw only on what has been "acquired."

(Krashen, 1977,1978,1979)



The Levertov Machine: "Social forces" work in "acquisition" (ab), "learning" (ac), and also in "turning on" the speaker (ad). Affect around learning may inhibit (cd), as in "lathophobic aphasia." The generator draws its power from the Rhuostat (de); it draws content from acquisition (be), but not from learning ("ce). The output of the generator may come out as is (ei), or it may be monitored (ef), or both. Strength of the Monitor depends partly on "social forces" (af), partly on time. Correction may come from what has been learned (fh) and/or from what has been acquired (fg). An item may be both in (bi) and in (ci), but at different strengths. Weak items may not get through unless the Rheostat (d) is turned up. Some of the same "s.f." (a) that produce monitoring may also produce distortion (Gallwey) not correctible by governors (fi). Though learning and acquisition are qualitatively different, they may bleed into one another (bc, cb). Hence, try for social forces that will turn Rheostat up and at the same time keep monitoring at a desirable level ("infantilization" of Lozanov) (cf. also the five "stages" of Counseling-Learning). And find techniques which allow learning and acquisition to support one another.

Stevick's Levertov Machine:

1. Learning governor - relates directly to Krashen's Monitor in that the consciously learned "formal" knowledge of a language sometimes serves to alter the shape of an utterance before and/or after it is spoken.

2. Acquisition governor - is the subconscious "acquisition" store of linguistic information which serves as a monitor in language production; the learning governor and the acquisition governor are juxtaposed as possible systems through which language production can be monitored.

3. Rheostat - is a variable resistor representing a psychological state of the individual during the language production process; the higher the Rheostat setting, the more the language production process is affected.

4. Generator - participates in the creative construction process. Contrary to Krashen, Stevick suggests that "learning" can contribute indirectly to "acquisition." As Stevick states, "learning" may serve as a sensitizer so that an individual won't ignore pertinent linguistic information when he meets it in an "acquisitional" setting.

5. Social forces - not specifically defined, but they seem to be internal forces which provide the goals and reasons, both conscious and unconscious, for "learning" and "acquisition." They also act to directly control both the Rheostat and the Monitor. (Stevick, 1980)

Brain mechanisms and their relationship to models of language acquisition

Before I begin relating these two models to what neurophysiologist have hypothesized about the operation of the brain, I would like to warn the reader that ideas have been taken from a number of different theorists. Although these theorists would all basically concur to a

degree on the operation of the specific parts of the brain, the information we possess about the operation of the brain remains still largely in the form of hypotheses. What has become of interest to me is that the hypotheses nuerophysiologists have been formulating regarding language acquisition very closely parallel the hypotheses language acquisition theorists have been formulating--with one major exception. Most neurophysiologists seem to emphasize that although separate parts of the brain may serve specific functions during speech or language acquisition, all parts of the brain are interconnected and must be seen as relating to a complicated network of an operating whole. This discussion of neuroanatomy will, therefore, begin with the operation of separate parts and their relation to the Monitor Model and the Levertov Machine and work towards a discussion of the operation of the whole.

Figure 1 is a simplified drawing of a side-view of the left hemisphere of the brain and the structure which connects the brain to the spinal cord.

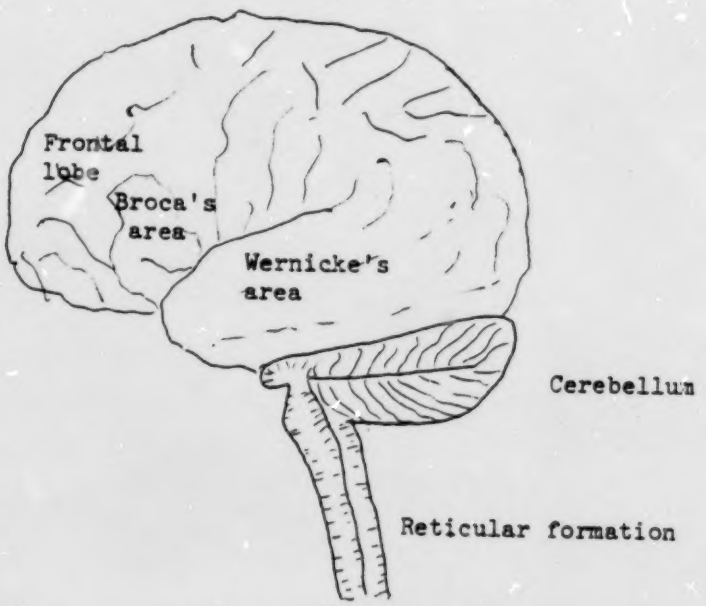


Figure 1. Structures of the Brain

Reticular Formation

The reticular formation, that portion of the brain lying between the major operation of the brain and the spinal cord, plays no specific role in the acquisition or production of speech per se, but it is important to the processing and production done by the brain. It appears to be the central coordinating agent of the brain as far as switching attention, modulating arousal, conditioning and general over-all functions are concerned (Smythies, 1970). Some of the functions of the reticular formation include the following:

1) Modifies the reception, conduction and integration of all sensory impulses
2) Controls sleep and arousal
3) Participates in phasic and tonic motor control
   (Note: the cerebellum attached to the reticular formation is primarily concerned with the regulation of motor coordination)
4) Controls directly many visceral functions
5) Controls many limbic functions, dealing with the modulation of emotions (Smythies, 1970)

First, note the important role the reticular formation plays in terms of the brain's operation. This part of the brain, which appears to operate unconsciously, not only receives sensory impulses but also modifies those impulses so as to integrate them with the rest of an individual's store of information in the brain. In conjunction with this task, the reticular formation is also involved in such "motivational" processes as arousal, hunger, and the emotional state of an individual. It is reasonable to assume, given assumptions held by Krashen and Stevick, that the reticular formation is intimately involved with Krashen's "acquisition" process and with Stevick's Rheostat.

The reticular formation, which functions in controlling even the operations of the autonomic nervous sytem, such as the regulation of the heart and lungs, may perhaps also operate in the language acquisition and production process equally as unconsciously in receiving, integrating, and producing linguistic information, as Krashen suggests occurs during the process of "acquisition." However, just as arousal and emotions, as they are tied to the effect of environmental stimuli on the individual, will affect these relatively automatic physical processes of heartbeat and breathing, they may also affect the processes of language acquisition and production. Stevick, through his introduction of the Rheostat, suggests the importance of an individual's arousal to the language production process in particular. I would like to suggest that an individual's arousal and emotions may be closely tied to both the language acquisition and production process. As Altman 91978) suggests, in the absence of affectively mediated ego-involvement, all higher-level mental abilities collapse; this suggests that in some way any form of ego-involvement, either internally stimulated or stimulated by the environment, may have the capability of regulating the efficient or inefficient operation of the reticular formation as it comes to involve higher level mentation--both in language acquisition and language production.

The reticular formation may also help to explain the success of certain language teaching methods. If one of the ways of increasing the efficient operation of the reticular formation is through the operation of muscles, then perhaps this explains why language teaching techniques suggested by Total Physical Response, a teaching methodology which suggests the involvement of muscular movements in the learning process as an effecive learning "tool," might successfully influence

the learning process. Also, if a personal involvement affects the operation of the reticular formation as is suggested by the participation of the reticular formation in limbic functions, this might suggest why techniques suggested by Counseling-Learning, which place emphasis on this personal involvement, might serve as a stimulus to the learning process. Also consider the reticular formation's role in what have previously been called "motivational" processes. If an individual is physically tired, which suggests that the reticular formation is turned "down" in terms of the amount of information it is picking up from the environment, or if an individual is hungry or emotionally upset (i.e., angry or frightened) so that too much of the attention or energy of this part of the brain must be channeled towards attending to those problems, then very little learning will be occurring in the individual at that time. What is known about the operation of this portion of the brain seems to explain many of the processes which seem to be so important to learning in general and to language learning in particular.

However, something else besides arousal, ego-involvement, hunger and muscle movements also seem to affect the activation of the reticular formation. Thompson (1975) states that "there is recent evidence in human studies that attention does not occur prior to the development of long-term memory storage. If [this is] so, it may be impossible to distinguish attention from memory" (p. 535). It is therefore highly probably that an individual's past experience, which includes his/her interpretation of that experience, is a fundamental determinant of the content and logical trend of his/her thought processes in the present and controls to a large degree what the reticular formation attends to (Fair, 1963). This is why the higher cortical structures become important.

Broca's area and Wernicke's area

Two of those "higher" brain mechanisms are Broca's area and Wernicke's area. As can be seen in Figure 1, these two areas of the brain are located in the central portion of the left hemisphere. Broca, through his work with aphasics, discovered in 1860 that this area of the brain was particularly concerned with the oral production of speech; when a lesion occurred in this portion of the brain, an individual seemed to be incapable of producing oral speech although he was capable of comprehending both oral and written language. In 1874, Wernicke, also through work with aphasics, discovered that when a lesion occurred in this part of the brain, not only was the oral production of speech impaired but also the comprehension of both oral and written language seemed to be impaired. Wernicke's hypothesis about the operation of the two areas has been elaborated by others over the past 100 years, but his basic idea remains unchallenged. In his formulation of the operation of these two areas of the brain, he suggested that the underlying structure of an oral speech utterance arises in Wernicke's area and then is transferred to Broca's area where it receives a detailed and coordinated program for vocalization. However, as soon as this program is vocalized through the employment of Broca's area, the message is once again heard and evaluated by Wernicke's area. (Recall that Wernicke's area is involved in both the production and comprehension of the spoken and written word.)

I would like to suggest that Wernicke's area may be related both to what Stevick calls the Acquisition Governor and to what Krashen suggests is acquired linguistic information which is used to monitor language output. It appears that Wernicke's area, that particular

area of the brain which serves as a sort of "storage" place for linguistic information in each individual, is important not only in the production of speech, but also in the immediate audio-monitoring of that speech as a function of this particular area's responsibility for auditory speech comprehension. Labov's work (1970) is often used as support for the existence of "audio-monitoring." He describes the process in this way:

> In general, we find that norms acquired later in life, especially after puberty, never achieve the automatic regularity of a Type I rule [a rule which operates 100% of the time in an individual's speech]. A certain amount of audio-monitoring, or attention paid to speech, is necessary if any degree of consistency is to be achieved with such patterns. When the speaker is tired, or distracted, or unable to hear himself, this acquired or "superposed" pattern gives way in favor of the native vernacular acquired early in life. He may also stop monitoring his speech for the opposite reasons--when he is intensely excited, emotionally disturbed, or very much involved in the subject. (p. 35)

It should be noted that Labov is not speaking of a second language, but rather of what occurs as an individual acquires a different dialect than his "native" one after puberty. Audio-monitoring seems to occur even with this degree of "second" language acquisition. Perhaps Wernicke's area is involved in the speculative concept of the Acquisition Governor.

Left frontal lobe

The left frontal lobe, the "highest" part of the brain depicted in Figure 1, is the section of the brain which was supposedly the last to develop in an evolutionary sense and is also hypothesized to be the last to develop in terms of an individual's cortical maturation. According to Luria (1973), this "higher cortical zone," the frontal

lobe, is involved in the programming, regulation and verification of goal-directed activity. Therefore, it does not operate in the same capacity as either Wernicke's area or Broca's area, which are responsible mainly for linguistic sorts of tasks; rather it operates in a capacity similar to the reticular formation. However, in its function as a regulator and programmer, the frontal lobe is intimately related to, if not responsible for, the brain's conscious activity, in contrast to the reticular formation's responsibility for the brain's unconscious activity. Both the left frontal lobe and the reticular formation are responsible for the selection and retention of stimuli. However, the frontal lobe fosters the selection and retention of information as part of a deliberate and intentional plan which has been consciously created by an individual; in contrast, the reticular formation fosters the selection and retention of information based on a plan which is related to the information an individual already possess, but a plan which is not willful and deliberate as that of the frontal lobe, but is rather unconscious. Luria (1973) suggests the relationship between the "lower" brain mechanisms and the "higher" brain mechanisms is this:

> The higher levels of the cortex, participating directly in the formation of intentions and plans, recruit the lower systems of the reticular formation of the thalamus and brain stem, thereby modulating their work and making possible the most complex forms of conscious activity. (p. 60)

This ability to 'recruit" the lower systems also specifies another difference between the reticular formation and the left frontal lobe. The frontal lobe seems capable of utilizing, and, in fact, must utilize the lower brain mechanisms in order to assimilate environmental stimuli. In contrast, the reticular formation does not need the

conscious control of the frontal lobes to function, and may function very differently when the frontal lobe becomes involved in its activity.

With the introduction of these "higher" parts of the brain, a distinction can be made between what the neurophysiologists call "bottom-up" or "top-down" processing, what some individuals would call the difference between unconscious learning and conscious learning, and what Krashen and Stevick call "acquisition" and "learning." "Bottom-up" learning appears to be controlled unconsciously by the reticular formation and is the type of learning used by very young children and continues to be one type of learning also used by adults throughout their lifetime. However, as the child develops physiologically and neurologically and as s/he increases the amount of information s/he holds in his/her long term memory storage, s/he develops an ability to also consciously focus attention on specific aspects of his/her environment. The development of the frontal lobes represent biologically this development of an individual's ability to learn by using "top-down" processing strategies which involve the formation of intentions and plans before the learning actually occurs. Therefore, the higher levels of the cortex recruit the lower levels of the cortex to perform learning tasks. In this way, then, the brain can function from the bottom-up, with the lower systems of the brain being responsible for the learning which is occurring, or it can function from the top down, with the frontal lobes programming the most complex forms of conscious activity.

It appears that the conscious attempt of a learner to adopt the rules of a language may be closely related to the "top-down" processing

which the frontal lobes are responsible for described above. This conscious programming which the frontal lobes are responsible for may, therefore, be closely related to Krashen's conception of a Monitor and Stevick's adapted Monitor, called the Learning Governor. Just as Wernicke's area may be more responsible for the automatic unconscious audio-monitoring of speech, the frontal lobes may be more responsible for the planned, intentional speech acts as well as the production of speech in the written form which rely more on an individual's "formal" knowledge of a language. Once again, a close parallel can be drawn between the speech mechanisms discovered by neurophysiologists and those which have been postulated to exist by language acquisition theorists.

Conscious vs. unconscious learning

Therefore, there seems to be two distinct and yet related processes through which an individual can learn, through unconscious learning, utilizing the reticular formation to direct and control its activities, or through conscious learning, utilizing the frontal lobe to direct and control its activities. I would like to examine the implications this dichotomy has for language learning and teaching.

Stevick (1980) makes a statement which is in fact a question regarding the realtionship of the Monitor or the conscious process of language to second language processing in general:

> I am not certain whether an "Overuser" is just someone who uses the Monitor at inappropriate times, or whether an "Overuser" may also be one whose Monitor is too sensitive--is too easily triggered--or perhaps some combination of these. (p. 271) [my italics]

And Jaynes (1976) makes a statement which raises a number of questions regarding the influence of the lower brain mechanisms on the total functioning by questioning the importance of "consciousness," or the active and conscious awareness and participation by the individual, in the brain's activities:

> We have been brought to the conclusion that consciousness is not what we generally think it is. It is not to be confused with reactivity. It is not involved in hosts of perceptual phenomena. It is not involved in the performance of skills and often hinders their execution. It need not be involved in speaking, writing, listening, or reading. It does not copy down experience, as most people think. Consciousness is not at all involved in signal learni 3, and need not be involved in the learning of skills or solutions, which can go on without any consciousness whatever. It is not necessary for making judgments or in simple thinking. It is not the seat of reason, and indeed some of the most difficult instances of creative reasoning go on without any attending consciousness. (pp. 46-47)

Given Stevick's suggestion that some individuals may have Monitors which are too sensitive and Jaynes' statement about the relative unimportance of consciousness to the learning process, I would like to examine the assumptions about language learning held by Gattegno in the Silent Way and by Lozanov in Suggestopedia. It appears that Gattegno would represent a language "learning" theorist, whereas Lozanov would represent a language "acquisition" theorist. Consider the following assumptions held by these two individuals:

> Gattegno: If we want a strong and well-equipped intellect, we must first create the conditions which will allow the growth of the awareness of thought as a spiritual function--as awareness of its freedom, its creative power, its discriminating use of states of spiritual energy and objectifications. Once we do this the proper function of thought in life will be exercised with vigor and it should be added and emphasized without external pressure. (Gattegno, 1971, p. 75) [my italics]
>
> Attention is the outcome of the Will. So is listening and looking. Without these signs of the working of the will, signs that the will is being mobilized for the tasks at hand, teachers are completely helpless. (Gattegno, 1970, pp. 54-55)

Lozanov: Suggestion is usually the counterpart to conviction. While conviction is built on a base of logical argument, on recording consciousness and concentration of attention, suggestion originates as a direct link between the unconscious mental activity and the environment where no recoding of consciousness occurs, no logical arguments are tolerated and no concentration of attention is required. (Lozanov, 1979, p. 59)

> The memorization process itself takes an unconscious course in the normal, calm perception. However, if the teaching is misguided, this normally spontaneous process in the individual's development can involve great effort and strain. The natural mechanism of memorization is deformed....An active and conscious attitude toward the process ensures its full utilization, but activeness in memorization can be expressed even in apparent external passiveness. This passiveness is like the passive children's perception and memorization. But behavioral passiveness in the adult is an expression of his superactive attitude toward the process of teaching. Such passiveness facilitates hypermnesia and liberates the intellectual activity to operate without any disturbing strain. (Lozanov, 1979, pp. 197-198)

However, in an attempt not to misrepresent both Gattegno and Lozanov, it should be understood that these two theorists both also believe in the "powers of the mind" which are the opposites of the ones they are emphasizing in the learning process. Consider Lozanov's (1979) statement:

> The principle of "the unity of conscious and paraconscious and integral brain actrivity" or of "totality" requires that teaching and learning should be organized in such a way as to utilize the conscious reactions and functions of the students, as well as his paraconscious activity. At the same time, this implies the integral and purposeful participation of the two brain hemispheres of the student and his cortex and subcortex in the process of instruction. The suppressions of the unconscious functions, in the so-called consciously directed process of learning is not in compliance with the natural indissoluble dialectical bond between the consicous and paraconscious processes. This principle also calls for meaning to be given to the simultaneous total participation of the cortical and subcortical structures, as well as to analysis and synthesis. The observance of this principle brings the learning process closer to the regular natural psychological and physiological make-up of the pupil. It raises consciousness to a still higher level. (p. 259)

Neurophysiologists appear to agree with Lozanov. Both Luria (1970) and Lenneberg (1967) have stated their belief in the importance of the interconnectedness of the different parts of the brain. As Luria (1973) states:

> It is accordingly our fundamental task not to 'localize' higher human psychological processes in limited areas of the cortex, but to ascertain by careful analysis which groups of concertedly working zones of the brain are responsible for the performance of complex mental activity; what contribution is made by each of these zones to the complex functional system; and how the relationship between these concertedly working parts of the brain in the performance of complex mental activity changes in the various stages of its development. (pp. 33-34)

Note that Luria emphasizes the importance of the study of each separate working zone, their relationship to the system and the change in this system as mental activity changes as a result of an individual's mental and physical development. This developmental change in the relationship between the working parts of the brain is one which is of particular interest to Lenneberg (1967). He states:

> [There exists] diverse circumstantial evidence that puberty marks a milestone both for the facility in language acquisition and a number of directly and indirectly related processes in the brain. We are, therefore, suggesting as a working hypothesis that the general, nonspecific states of the maturation of the brain constitute prerequisites and limiting factors for language development. They are not its specific cause. (pp. 168-169)

Vygotsky (1962) also emphasizes the importance of the changing interrelationships between the parts as being important in the developmental process and the gradual transformation of thought:

> No new elementary function, essentially different from those already present, appears at [puberty], but all the existing functions are incorporated into a new structure, form a new synthesis, become parts of a new complex whole; the laws governing this whole also determine the destiny of each individual part. Learning to direct one's own mental processes with the aid of words or signs is an integral part of the process of concept formation. The ability to regulate one's actions by using auxiliary means [consciousness] reaches its full development only in adolescence. (p. 59)

Vygotsky, therefore, suggests the following:

> All that is known about psychic development indicates that its very essence lies in the change of the interfunctional structure of consciousness. Psychology must make these relations and their developmental changes the main problem, the focus of study, instead of merely postulating the general interrelation of all functions. (p. 2)

Given these views, it is not unreasonable to hypothesize that for the young child, undoubtedly his main system of second language acquisition will be language "acquisition," but for the older child and the adult, the second language acquisition process will probably consist of some mixture of language "acquisition" and language "learning." This mixture will undoubtedly not be the same for all individuals, nor will one process operate to the exclusion of the other under all circumstances in which the language is being "acquired" or "learned." Language "learning" and language "acquisition" therefore do not necessarily exist as isolated processes, but rather both processes exist in a homeostatic system in each individual. The exact nature of this homeostatic balance will probably be determined by a number of factors: the natural balance existing physiologically in the brain, the "social forces" suggested by Stevick (and others); and by the particular educational setting as well as the preconceptions an individual holds about the "correct" or appropriate way to learn a second language.

Conclusions

The language "learning" and language "acquisition" processes, therefore, are supported by neurophysiological evidence. Both the concepts presented in Krashen's Monitor Model and the concepts presented in Stevick's Levertov Machine do seem to have their neurophysiological correlates in the functioning of the brain. There may also exist a possible validity in evaluating language teaching techniques in terms of whether they address themselves to language "learning" or to language "acquisition" or to some combination of these two different processes involved in language acquisition. However, what I believe has not been adequately addressed by the "learning"-"acquisition" dichotomy is the interrelationship between "learning" and "acquisition"(or conscious and unconscious language acquisition) in each individual. By dichotomizing the two different processes and suggesting that they do exist isolated from one another, an understanding of how an individual's cognitive system operates using both conscious and unconscious processes is somewhat distorted. Some homeostatic balance between language "learning" and language "acquisition" undoubtedly exists in each language learner; some individuals may benefit more from a language "acquisition" environment (i.e., very young children), other individuals may benefit more from a language "learning" environment (i.e., adults who tend to possess more analytical learning styles), and others may benefit most from some combination of both "learning" and "acquisition" environments. Therefore, I would like to suggest that the "learning"-"acquisition" dichotomy may serve as a valuable heuristic device in that it offers a label for two very different types of learning processes; however, I

would also like to suggest that by labeling these processes as two distinct processes, an understanding of how the operation of each affects the "whole" is lost. Consequently, the "learning"-"acquisition" dichotomy is both "real" and "un-real."

In conclusion, just as Vygotsky states that it is the responsibility of the field of psychology to become more aware of the changing development of the relationship between the parts to the whole, so it has become the responsibility of people interested in the language acquisition process to come to understand the strengths of both language "acquisition" and language "learning" as they relate to different individuals, different learning styles, different cognitive modes of learning a language, and different learning needs—including those of an entire class. Once that has been accomplished, we must then begin to examine teaching techniques in terms of how they might be operating according to the "learning" and/or "acquisition" needs of different students. Only with an understanding of how the cognitive system operates in each individual and how this cognitive system is affected by different techniques will the teacher gain insight into how to meet more adequately the language learning needs of his/her students.

BIBLIOGRAPHY

Altman, J. 1978. Three levels of mentation and the hierarchic organization of the human brain. In Miller, G.A. and Lenneberg, E. (Eds.) Psychology and Biology of Language and Thought. New York: Academic Press. pp. 87-110.

Fair, C. M. 1963. The Physical Foundations of the Psyche. Middletown, Conn.: Wesleyan University Press.

Gattegno, C. 1970. What We Owe Children: The Subordination of Teaching to Learning. New York: Outerbridge and Dienstfrey.

Gattegno, C. 1971. The Adolescent and His Will. New York: Outerbridge and Dienstfrey.

Jaynes, J. 1976. The Origin of Consciousness in the Breakdown of the Bicameral Mind. Boston: Houghton Mifflin Co.

Krashen, S. D. 1977. The monitor model for adult second language performance. In Burt, M., Dulay, H. and Finocchiaro, M. (Eds.) Viewpoints on English as a Second Language. New York: Regents Pubishing Co., Inc.

Krashen, S.D. 1978. The monitor model for second-language acquisition. In Gingras, R.C. (Ed.) Second Langauge Acquisition and Foreign Language Teaching. Arlington, Va.: Center for Applied Linguistics.

Krashen, S.D. 1979. A response to McLaughlin, "The monitor model: some methodological considerations." Language Learning. 29 151-167.

Labov, W. 1970. The Study of Nonstandard English. Urbana, Ill.: National Council of Teachers of English.

Lenneberg, E. 1967. Biological Foundations of Language. New York: John Wiley & Sons, Inc.

Lozanov, G. 1979. Suggestology and Outlines of Suggestopedy. New York: Gordon and Breach.

Luria, A. R. 1970. The functional organization of the brain. Scientific American. 222(3) 66-78.

Luria, A. R. 1973. The Working Brain: An Introduction to Neuropsychology. New York: Basic Books Inc., Publishers.

Smythies, J. R. 1970. Brain Mechanisms and Behavior, 2nd ed. New York: Academic Press.

Stevick, E. W. 1980. Teaching Languages: A Way and Ways. Rowley, Mass.: Newbury House Publishers.

Stevick, E. W. 1976. Memory, Meaning, and Method: Some Psychological Perspectives on Language Learning. Rowley, Mass.: Newbury House Publishers.

Thompson, R. F. 1975. Introduction to Physiological Psychology. New York: Harper and Row Publishers.

Vygotsky, L. S. 1962. Thought and Language. Cambridge, Mass.: The MIT Press.